

What is claimed is:

1. A continuous process for treating a bicomponent polyester fiber comprising the steps of:

- a) providing a bicomponent fiber comprising poly(ethylene terephthalate) and poly(trimethylene terephthalate) that has been heated to a first heat-treating temperature and cooled to a temperature below about 70°C; wherein the fiber has an initial crimp contraction value and a developed crimp contraction value;
- b) applying tension to the fiber of about 0.001 to about 0.088 dN/tex;
- c) heat-treating the tensioned fiber at a second heat-treating temperature that is no lower than about 75°C and no higher than the first heat-treating temperature;
- d) cooling the fiber to lower than the second heat-treating temperature;
- e) releasing the tension from the fiber, wherein the resulting treated bicomponent fiber has a reduced crimp contraction value.

2. The process of claim 1, further comprising a step of f) heat-treating the fiber at a third heat-treating temperature, while the fiber is in a relaxed state to give a fiber having a restored crimp contraction value, wherein when the step is carried out dry, the third heat-treating temperature is higher than the second heat-treating temperature and lower than the first heat-treating temperature, and when the step is carried out wet, the third heat-treating temperature is from about 60°C to about 135°C.

3. The process of claim 1, wherein the fiber is heat-treated at a first heat-treating temperature of about 140°C to about 185°C, and the reduced crimp contraction value is about 35% to about 70% of the initial crimp contraction value.

4. The process of claim 3, wherein the initial crimp contraction value is from about 8% to about 25%, the fiber is cooled in step a) to a temperature of about 20°C to about 70°C, the tension in step b) is from about 0.001 to about 0.026 dN/tex, the second heat-treating temperature in step c) is from about 75°C to about 185°C, the fiber is cooled in step d) to a temperature of about 20°C to about 75°C, and the resulting treated fiber has a reduced crimp contraction value of about 6% to about 15%.

5. The process of claim 2, further comprising, between steps e) and f), an additional step selected from the group consisting of:

- (i) cutting the fiber into staple, carding the staple, and preparing a spun yarn of the staple, wherein step f) is carried out on the spun yarn;
- (ii) forming a fabric selected from the group consisting of knits and wovens, wherein step f) is carried out on the fabric;
- (iii) winding the fiber into a skein, wherein step f) is carried out on the skein;
- (iv) covering the fiber, wherein step f) is carried out on the fiber so covered;
- (v) twisting the fiber, wherein step f) is carried out on the fiber so twisted;
- (vi) interlacing the fiber, wherein step f) is carried out on the fiber so interlaced; and
- (vii) entangling the fiber, wherein step f) is carried out on the fiber so entangled:

6. The process of claim 1, wherein the tension in step b) is from about 0.001 to about 0.026 dN/tex.

7. The process of claim 2, wherein the fiber has a developed crimp contraction value of about 20% to about 80%, and the restored crimp contraction value is about 70% to about 100% of the developed crimp contraction value.
8. A bicomponent fiber comprising poly(ethylene terephthalate) and poly(trimethylene terephthalate) having a reduced crimp contraction value of about 6% to about 15%, wherein the fiber is derived from a precursor fiber having a developed crimp contraction value of about 20% to about 80%.
9. The fiber of claim 8, wherein the fiber has a restored crimp contraction value that is about 70% to about 100% of the precursor fiber's developed crimp contraction value and wherein the fiber is derived from a precursor fiber having an initial crimp contraction value from about 8% to about 25%..
10. The fiber of claim 8, made by the process of claim 1.